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ABSTRACT

This study examined explanatory talk that occurred in families of preschool children during book readings between mother and child, and during mealtimes with the whole family. The study is part of a larger study, the Home School Study of Language and Literacy Development. Three-year-old children eligible for Head Start programs in the greater Boston (Massachusetts) area were recruited for the study. A total of 84 low-income families were visited at home once each year when the children were 3 and 4 years old. Two books, one provided by the researcher and one familiar to the child, were used for tape-recorded book reading sessions. Each mother was also asked to record family conversation during a meal. All recorded conversations were transcribed for analysis. Results indicated that a higher percentage of explanatory utterances occurred during readings of the familiar book than during readings of the experimenter-provided book. The proportion of explanatory talk during book readings was much smaller than the proportion of explanatory talk at mealtimes. When the children were 5 years old they completed a battery of standardized tests and independent language tasks. No measures of explanatory talk during book readings were associated with test outcomes. However, the amount of explanatory talk that occurred during mealtimes when the children were 3 years old was associated with some vocabulary and discourse abilities at age 5. (MM)

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# The Where and When of Whys and Whats: Explanatory Talk Across Settings

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When someone explains something, he makes something clear to someone else. Explanation is not a purely referential activity, logically connecting two or more propositions. It is based on an assumption by a speaker that an interlocutor is in need of some explication of the connection between objects, events, concepts, and conclusions. It proceeds as the interlocutors negotiate the meaning of this connection, until they are satisfied that they share an understanding of this connection. Explanation is as social as it is referential.

Explanation is a common, everyday activity among adults (Antaki & Fielding,1981; Landolfi, 1989), among children (Barbieri, in press; Barbieri, Colavita, & Scheuer,1990), and between children and adults (Beals, in press). Speakers explain why things happen, why people behave the way they do, how to do things, how someone knows something, what something means, and what something is like. Explanations are given within the context of conversation. Sometimes one person requests an explanation and other times a speaker spontaneously produces one after perceiving a need for it. Sometimes one speaker takes on all of the responsibility for giving the explanation, and other times speakers jointly construct an explanation between them.

Defining explanation as a social activity requires that we emphasize the purposes people have for explaining. Speakers have specific intentions in mind when they speak. We can expect that as the situation varies, so will speakers' purposes in giving explanations. In this paper, we examine explanations taking place within families of preschool-age children in two different situations, book readings between mother and child and mealtimes with the whole family. We expect that, while there will be some similarities about the explanations given, the different social functions of these situations will result in some differences in purposes and effects of explanations.

We begin with an overview of the subjects and methods of the study. We present a definition of explanation and demonstrate how they occur in mealtime and bookreading situations, outlining the types and frequencies of explanatory talk in the two settings. Then associations between the two situations' explanatory talk and with later literacy measures are discussed.

## The Study

The present study is part of a larger study, The Home-School Study of Language and Literacy Development (Snow, 1991; Snow, Dickinson, & Tabors, 1989). Three-year-old children were recruited from preschool programs (including some Head Start programs) in the greater Boston area. Specifically, we looked for children who were eligible for Head Start (and hence

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were considered to be low-income), and for whom English was their home language. Eighty-two families agreed to participate in the study for a total of 84 children (two families had twins).

Low-income families were chosen as subjects in the larger study for two reasons: (1) similar data have already been collected on middle-class samples in many other studies, so we have a reasonably clear portrait of middle-class children's language environments and later literacy development, and (2) because children from low-income families represent a wide variety of homes, support structures, and subcultures, we would expect broad variation in performances on the tasks.

The children come from a range of cultural, racial, and economic backgrounds. Fifty-five of the subjects (65.5 percent) were white, twenty-three (27.4 percent) were African-American, and six (7.1 percent) were Hispanic. There were 41 males and 43 females. Although the families in the study are considered to be low-income on the basis of the child's eligibility for Head Start, they represent a wide range of social and economic situations. About half of the mothers (48.8 percent) reported that they had graduated from high school, and had not pursued further education. A quarter of the mothers (25.0 percent) had not finished high school, while the remaining quarter (26.2 percent) had received some post-high school education, usually some type of vocational training. Over half of the families (47) reported their income to be less than $15,000, with welfare being the primary source of income.

Family configurations varied widely in the sample. A total of 28 families consisted of one parent (mother) and children. Thirty-nine families reported two adults, usually the father, step-father, or another adult male. Eleven other families reported the presence of more than two adults living in the home. For example, two families consisted of the mother, target child, and the mother's parents. In these two cases, the child received lots of adult attention in everyday interactions.

Data collection

Families were visited at home once each year when the target children were three years old and again when they were four years old[1]. At each home visit the mother was asked to look at a book brought by the experimenter, The Very Hungry Caterpillar (by Eric Carle), and at a favorite book familiar to the child. A second book was provided if the mother did not provide a familiar book. Bookreading tapes gave us samples of the kinds of knowledge and skills that the mother emphasizes about text and reading. At the end of each home visit, we left a blank tape and a taperecorder with the mother, asking her to record a mealtime. Later, the experimenter returned to retrieve the tape and recorder. These tapes provided us with a sample of more naturalistic conversation among family members without the presence of an experimenter.

All recorded conversations from home and school were transcribed into computer files according to Codes for the Human Analysis of Transcripts (CHAT) conventions for analysis by the Child Language Analysis (CLAN) software available through the Child Language Data Exchange System (CHILDES) (MacWhinney and Snow, 1990). Transcripts were then coded for the presence of explanatory talk.

## Explanations in Mealtimes and Bookreadings

We used a broad definition of explanation as a conversational exchange in which one speaker makes some connection between events, objects, concepts, and/or conclusions clear to another person. A number of different kinds of explanations occurred in both situations. The

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[1] There was no attrition between the first and second home visits. However, we were unable to schedule home visits for 12 of the families for the age-4 visit. These families continued their participation in the study and were visited again when the target child was five.

connections that speakers explain were characterized by the answers to questions of why something happened (causal explanations -- see Examples 1 and 2), why someone behaved in a specific way (intentional explanations -- see Example 3 and 4), why someone feels some way (explanation of internal states -- Example 5 and 6), what something is like or what something means (definitional/descriptive explanations -- Example 7 and 8), how something is done (procedural explanations -- Example 9), and how someone knows something (evidential explanations -- Example 10 and 11).

Example 1 - casual explanation (Kevin, age 4, mealtime)

*Brother: I wonder why every time the bubble go up it hits the top # it pops!
*Mother: (be)cause it hits the air.
*Mother: that makes it pop.
*Mother: just like when you blow a bubble?
*Mother: it falls on the grass the grass makes it pop.
*Brother: and some of them never come back down they pop in the air.
*Mother: yup.
*Kevin: yeah.

Example 2 - causal explanation (Tewana, age 3, bookreading)

*Mother: why you think he had a stomach ache Tewana?
*Tewana: I don't know.
*Mother: because he ate too much.
*Tewana: yeah?

Example 3 - intentional explanation (Brad, age 4, mealtime)

*Grandpa: you all right dear?
*Mother: yes dad.
*Brad: so how come you said "are you all right"?
*Brad: how come?
*Grandpa: (be)cause it's suppertime and your ma disappeared.

Example 4 - intentional explanation (Emily, age 3, bookreading)

*Mother: "the caterpillar ate through one nice green leaf and after that he felt much better."
*Emily: yes.
*Mother: must be good for indigestion.
*Emily: yes.

Example 5 - internal states explanation (Diane, age 3, mealtime)

*Mother: are you afraid to dunk?
*Diane: no.
*Mother: why?
*Diane: because I'm a big girl.

Example 6 - internal states explanation (Anna, age 4, bookreading)

*Mother: "Peter began to cry".
*Mother: do you think Peter's sad?
*Anna: (nods head yes)
*Mother: why is he sad?
*Anna: he's lost in the woods.
*Mother: his mommy # he didn't listen to his mommy, did he?
*Anna: (shakes head no)
*Mother: now he's lost.

Example 7 - definitional/descriptive explanation (Remo, age 4, mealtime)

*Mother: you know what an excellent means?
*Remo: mommy!
*Mother: you know what excellent means?
*Remo: what?
*Mother: it means you did the best!
*Mother: the best you could.
*Mother: and she was pleased with it.

Example 8 - definitional/descriptive explanation (Anna, age 4, bookreading)

*Mother: "Peter gave himself up for lost and shed big tears but his sobs were overheard by some friendly sparrows who flew to him in great excitement and implored him to exert himself."
*Anna: to exert? what is to exert?
*Mother: they said to keep on trying to get away.

Example 9 - procedural explanation (Conrad, age 3, mealtime)

*Mother: you add a little water and you shake it up.
*Conrad: is that how you make it Mom that's how you make it Mom?
*Mother: that's how you get it to go / when it's all stuck to the sides.

Example 10 - evidential explanation (Kurt, age 4, mealtime)

*Mother: I think Kurt gets to pick it out this time right?
*Mother: because you picked out this kind?
*Kurt: yeah.
*Elaine: nuhuh I didn't pick it.
*Mother: oh no it's mommy's turn to pick one out.
*Kurt: no.
*Mother: yeah because you picked out the Kool Aid coolers.
*Mother: right?
*Kurt: mommy, didn't Elaine?
*Mother: no you did when you were sick.
*Mother: remember?

Example 11 - evidential explanation (Emily, age 4, bookreading)

| | |
|---|---|
| *Emily: | where's the baby bird? |
| *Mother: | I don't know. that's the daddy bird. (laughs) |
| *Mother: | and there's the daddy and the mommy bird. |
| *Emily: | baby bird look like one of these? |
| *Mother: | I guess they're just other birds. |
| *Emily: | but there's the baby bird. |
| *Mother: | those could be the cousins. |
| *Mother: | (be)cause the babies wouldn't be flying without the mommy # all right? |
| *Emily: | that's the mommy and the daddy. |
| *Mother: | okay. |

The examples indicate that we found several kinds of explanations in both mealtimes and bookreadings. Because we define explanation as a conversational exchange, all utterances pertaining to the actual giving of the explanation are coded as explanatory talk; requesting an explanation, requesting clarification of some point within an explanation, acknowledgement of an explanation, as well as the giving of the explanation, were all included in explanatory talk.

In the following sections, we outline the shape of the two conversational situations and report the overall frequencies of explanatory talk within these situations.

Explanations at mealtime

Mealtimes provide a source of relatively naturalistic conversations among family members. These conversations vary widely in form and content. The tapes ranged in length from 3 minutes to 47 minutes, from 23 utterances to 1016 utterances. Some families consisted only of mother and target child, so mealtime was between these two, while other mealtimes included up to four siblings, fathers, grandparents, and friends of the family contributing to the conversation. In a few families, the television was prominently present in the talk; in others, there were "no TV at dinner" rules. Topics ranged from the appearance and taste of the food on the table to the benefits of good nutrition, from tonight's plans to last summer's vacation, from reasons for table manners to the function of scuba diving gear. While the presence of the taperecorder undoubtedly altered the conversation to some extent, we believe that the conversation indicates what kinds of talk the families felt researchers of language would want to hear, and that they were putting their best feet forward.

Because we had to depend on families to make tapes and return them to us, we did not receive tapes from all families. After the first home visit, 62 families, returned mealtime tapes. Both families with twins returned tapes, so the total sample is 64 children. After the second home visit, only 45 families returned tapes. One family with twins returned a tape, so we have a total sample of 46 children at the second home visit.

Because mealtimes generally afford families with the opportunity to talk at length about some topic of interest, we have found these conversations to be a good source of explanatory talk (Beals, in press). Explanations of the intentions behind actions and speech acts (such as commands, requests, questions, and statements) accounted for half of all explanations. There were also numerous explanations of internal states, causality, definitions, descriptions, and evidence.

Each transcript was coded for the presence of explanatory talk. Table 1 presents the means and ranges of frequencies and proportions of such talk at mealtimes.

Table 1
Mealtimes: Frequency and Proportion of Explanatory Talk

| Variable | n | Mean | S.D. | Range |
|---|---|---|---|---|
| Number of Explanations (age 3) | 62 | 12.4 | 10.7 | 1 - 45 |
| Number of Explanations (age 4) | 45 | 13.4 | 7.6 | 0 - 27 |
| Percent of Talk Explanatory (age 3) | 62 | 15.8 | 13.1 | 0.7 - 79.1 |
| Percent of Talk Explanatory (age 4) | 45 | 18.7 | 16.8 | 0.0 - 91.4 |

Explanations are a relatively common activity in these mealtimes, occurring 12 to 13 times on average, and accounting for 16 percent of all talk when the target child is three years old, and 19 percent when she is four.

Mothers and children accounted for differing amounts of this explanatory talk, as seen in Table 2.

Table 2
Mealtimes: Number and Proportion of Explanatory Utterances by Mother and Child

| Variable | n | Mean | S.D. | Range |
|---|---|---|---|---|
| Mother's # of Explanatory Utterances (age 3) | 62 | 26.7 | 26.5 | 0 - 150 |
| Mother's # of Explanatory Utterances (age 4) | 45 | 33.2 | 32.6 | 0 - 182 |
| Child's # of Explanatory Utterances (age 3) | 64 | 18.0 | 22.0 | 0 - 109 |
| Child's # of Explanatory Utterances (age 4) | 45 | 23.2 | 24.5 | 0 - 134 |
| Percent of Exp. Talk by Mother (age 3) | 62 | 46.8 | 20.0 | 0.0 - 100 |
| Percent of Exp. Talk by Mother (age 4) | 44 | 45.6 | 15.4 | 10.1 - 73.9 |
| Percent of Exp. Talk by Child (age 3) | 62 | 28.9 | 18.6 | 0.0 - 100 |
| Percent of Exp. Talk by Child (age 4) | 43 | 31.8 | 13.6 | 7.5 - 66.7 |

Mothers are, on average, responsible for half of the explanatory talk, while the target children account for approximately 30 percent, a substantial portion for three- and four-year-olds.

Both mothers and children are fairly consistent in the proportion of explanatory talk they engage in between the two visits. There are moderate correlations between the proportion of explanatory talk at the age-3 and age-4 visits by mothers ($r$=.494, $p$<.001) and by target children ($r$=.476, $p$<.003).

Explanations in book readings

When a mother looks at a book with her preschool-aged child much of her talk, beyond the reading of the text, serves the purpose of checking the child's attention and comprehension ("see the egg?", "where's the moon?"), of engaging the child in the activity through requests for labels, attributes, or predictions ("what's that called?", "what is she going to do?"), and requesting or providing evaluations ("isn't that pretty?", "did you like that?"). In addition, mothers and children may request or spontaneously provide explanations about the story or about words in the story. Explanatory talk during book reading consists of types of explanations comparable to those found

in mealtimes: why does something happen?, why does someone behave in a particular way? how do we know? what does a word mean? A major distinction between the purposes of requests for explanations that occur between the mother and child is that the mother tends to ask the child to provide explanations for which she has an answer, motivated by a desire to check or extend the child's comprehension, while the child's requests for explanations are sincere requests for information, driven by a desire to understand an aspect of the book.

In addition to requests for explanations and their responses, some explanations occur in the form of spontaneous comments that provide information beyond that which is immediately available from the text or illustration. Presumably the additional comments are providing useful information, expanding on what was just read, or on the illustration, providing some kind of explanation in the sense that the speaker assumes the information she is providing was not fully obvious to the listener, following the Gricean maxim of clarity. An example of this is when the mother makes a connection between an aspect of the story and the child's own experience. The speaker (mother) assumes the listener's (child's) comprehension will be strengthened through this information. While reading books with young children, mothers frequently repeat or paraphrase information that has just been read. While these interjections may support and augment her child's comprehension, this type of talk is not considered explanatory in the analysis we are discussing. Explanatory talk by the mother or child, as we define it for book reading, must include some new information beyond that provided by the book.

In summary, explanations are both requested and given spontaneously based on the speaker's assumptions about the level of understanding and amount of knowledge of the addressee. The mother brings in information that is not readily available in the book to enhance the child's grasp of the story, text or illustration. The use of explanatory talk during book reading is presented in Tables 3 through 5.

Table 3
Book Reading: Percent of Talk That is Explanatory

| Variable | n | Mean | S.D. | Range |
|---|---|---|---|---|
| Percent of Talk Explanatory (VHC age 3) | 82 | 5.5 | 6.5 | 0-40 |
| Percent of Talk Explanatory (BOC age 3) | 82 | 7.9 | 11.2 | 0-63 |
| Percent of Talk Explanatory (VHC age 4) | 69 | 6.2 | 6.0 | 0-28 |
| Percent of Talk Explanatory (BOC age 4) | 69 | 9.7 | 10.0 | 0-37 |

VHC= The Very Hungry Caterpillar (experimenter provided book)
BOC= Familiar book chosen by mother and child

There is a significantly higher percent of explanatory utterances during the reading of the familiar book compared to the reading of the experimenter-provided book at the age-4 visit ($\underline{T}$=2.77, n=68, $p<.007$), perhaps because there is greater variation in the percent of talk that is explanatory in the familiar book than with the book provided. This was likely due to the great differences in the types of books chosen and the variation in the degree of familiarity with the book.

The proportion of book reading talk that is explanatory is much smaller on average than the proportion of explanatory talk in mealtimes (see Table 1). This is due possibly to the stringent definition we use for explanations, limiting only talk about information not readily available on the page. This may have resulted in an underestimation of the amount of explanatory talk found by this analysis of book readings.

Table 4 presents the frequencies of explanatory utterances in each book reading, by the mother and the child.

Table 4
Book Reading: Number of Explanatory Utterances by Mother and Child

| Variable | n | Mean | S.D. | Range |
|---|---|---|---|---|
| Mother's # of Explanatory Utterances (VHC age 3) | 82 | 2.0 | 2.2 | 0-12 |
| Mother's # of Explanatory Utterances (BOC age 3) | 82 | 2.5 | 3.5 | 0-15 |
| Child's # of Explanatory Utterances (VHC age 3) | 82 | 1.0 | 1.5 | 0-7 |
| Child's # of Explanatory Utterances (BOC age 3) | 82 | 1.7 | 2.9 | 0-16 |
| Mother's # of Explanatory Utterances (VHC age 4) | 69 | 2.0 | 2.3 | 0-11 |
| Mother's # of Explanatory Utterances (BOC age 4) | 69 | 2.7 | 3.6 | 0-22 |
| Child's # of Explanatory Utterances (VHC age 4) | 69 | 1.5 | 2.3 | 0-14 |
| Child's # of Explanatory Utterances (BOC age 4) | 69 | 2.1 | 4.1 | 0-30 |

VHC= The Very Hungry Caterpillar (experimenter provided book)
BOC= Familiar book chosen by mother and child

There is quite a lot of variation, particularly with the familiar book. High variation in the length of the book, the content, and the mother and child's familiarity, as well as their individual style, all contribute to the high variation in the amount of explanatory talk during the book reading.

Table 4 indicates that mothers are responsible for somewhat more of the explanatory talk than children are while reading a book. The numbers are close because the child is generally responding to a mother's comments and questions during the reading, so the frequencies would be roughly the same. Both the mother and child provide far fewer explanatory utterances on average in book readings than they do in mealtimes (see Table 2), due partly to the difference in length (in time and number of utterances), and partially due to the strict definition of explanation in this study.

Table 5 shows the proportion of explanatory utterances by mother. Because the mother and the target child are the only two contributors to book reading conversations, the target child is responsible for the remaining proportion of explanatory talk.

Table 5
Book Reading: Percent of Explanatory Utterances by Mother

| Variable | n | Mean | S.D. | Range |
|---|---|---|---|---|
| Percent of Exp. Talk by Mother (VHC age 3) | 59 | 70.3 | 29.5 | 0-100 |
| Percent of Exp. Talk by Mother (BOC age 3) | 57 | 62.3 | 33.6 | 0-100 |
| Percent of Exp. Talk by Mother (VHC age 4) | 51 | 60.0 | 34.0 | 0-100 |
| Percent of Exp. Talk by Mother (BOC age 4) | 50 | 57.7 | 30.0 | 0-100 |

VHC= The Very Hungry Caterpillar (experimenter provided book)
BOC= Familiar book chosen by mother and child

The mother's percent of the explanatory talk is somewhat lower (but not significantly) with the familiar book. Mothers are responsible for the majority of explanatory talk in book readings as they are in mealtimes (see Table 2).

There is consistency in the use of explanatory talk within the activity of book reading. When mothers and three- and four-year-old children look at books together, the activity is most often directed by the mother, the reader. The mother reads, pausing to ask questions and make comments. Because questions involve contingent responses and comments often result in contingent comments in response, it is not surprising that there are moderate to strong positive correlations between the number of explanatory utterances by the mother and child during the reading of a book (VHC age 3: $r$=.412, $p$<.001; book of choice age 3: $r$=.600, $p$<.001; VHC age 4: $r$=.442, $p$<.001; book of choice age 4: $r$=.781, $p$<.001). Less expected, but reassuring if we hope to generalize from these book readings to other book readings, is the positive correlation between the mother's number of explanatory utterances reading two different books in the same session ($r$=.561, $p$<.001) and reading two different books from one year to the next (VHC age 3 and book of choice age 4: $r$=.332, $p$<.005; book of choice age 3 and book of choice age 4: $r$= .501, $p$<.001).

## Associations Between Mealtimes and Book Readings

In order to examine the relationships between explanatory talk in the two settings, we undertook a correlational analysis. Among the families in this study, there is no association between the frequency of mother or child explanatory utterances across the two settings. Nor is there any association between the overall proportion of explanatory talk occurring during book reading and the proportion of explanatory talk in mealtimes. The only association across the two settings was found between the proportion of explanatory utterances contributed by the child during the age-3 mealtime and the proportion of explanatory utterances contributed by the child during the age-3 book readings (for VHC age 3: $r$= .436, $p$<.003; for book of choice age 3: $r$=.441, $p$<.004). While we call both kinds of talk "explanatory", there is no consistent pattern of correlations between measures of bookreading explanatory talk and mealtime explanatory talk, except for the child's involvement in it. This may well be a measure of the child's general ability to seek and give explanations. On the other hand, mothers who use explanatory talk extensively in one situation may not do so in another situation.

Apparently mother's purposes and patterns in engaging in explanatory talk in the two settings are different enough that we see no associations between them. Mothers may perceive explanatory talk as a form teaching. During mealtimes they have the opportunity to contribute a wide range of explanations. They may or may not use the opportunities that arise, giving explanations only of things they know enough about to explain. While reading a book to her child, the mother may be more focussed on the task of reading the book, with her primary teaching goal being tied to the act of reading. Whether or not the mother sees book reading as an opportunity to draw inferences or make connections to the child's world is closely tied to her beliefs about the purpose of reading books to her preschool age child.

We may not be seeing a link between mealtime and book reading explanations because the nature of the activities is different in important ways and the way explanations are provided may be very different. It may be that we may need to expand our definition of explanatory talk to fit book reading more appropriately. While mealtimes are a more free-flowing, naturalistic conversation, book reading provides different types of constraints and supports. When the mother reads a text with embedded explanations, and paraphrases or repeats to check her child's comprehension of the explanation, the mother is not providing any explanatory talk under the current coding rules, but it is likely that the child is experiencing an explanation, make some sort of connection in her mind that had not been there before. For example, when the text says, "In the light of the moon, a little egg lay on a leaf", and the mother points out that the picture of the yellow circle with the smiling face at the top of the page is the moon, she is helping the child make the connection between the text, the picture, and the real world.

Associations between explanatory talk and outcome measures

When the target children were five years old, they were given a battery of standardized tests and asked to perform a set of independent language tasks. This collection of tasks was intended to assess a host of language and cognitive skills. Among these measures were the Peabody Picture Vocabulary Test (PPVT), a standardized test of receptive vocabulary. This test is commonly used as a measure of a child's receptive language and is correlated with verbal intelligence tests and school achievement. A definitions task, in which the child was asked to give definitions of 14 nouns, was administered. These definitions were rated on how formal they were (inclusion of a superordinate category with a relative clause; e.g. "a thief is a person who steals"). Also included was a picture description task, in which the child was asked to describe a photographic slide that the experimenter cannot see. The purpose of this task was to evaluate the child's ability to produce, independently, extended discourse on one topic, assuming his audience does not share the same visual field.

Is exposure to and participation in explanatory talk in the two situations associated with these outcome measures? In a correlational analysis, we found that no measures of explanatory talk in book readings were associated with age-5 outcomes. We also found that mothers' and children's proportion of explanatory talk were not associated with any of the outcome measures. However, we did find that the overall proportion of explanatory talk found in age-3 mealtimes was correlated with several of the age-5 outcome measures, including PPVT score ($r$=.421, $p$ <.001), formal definitions score ($r$=.382, $p$ <.003), and the picture description score ($r$=.365, $p$ <.005). The proportion of explanatory talk at age 4 was not a predictor of outcomes. So, the amount of explanatory talk that a three-year-old is exposed to at mealtimes is associated with some vocabulary and discourse abilities at age five.

With these moderate positive correlations between explanatory talk at age 3, it seems to be a reasonable expectation that there would be the same connection at age 4. However, this was not the case. In other analyses (Beals & Smith, 1992; Beals & De Temple, 1992), we have found that, at age 3, measures of the linguistic exposure and environment are better predictors of the outcome measures, while, at age 4, measures of an individual child's linguistic sophistication are better predictors of outcomes. The overall proportion of mealtime explanatory talk is a measure of the child's exposure to explanatory talk, not of individual ability. This coincides with the previous findings.

It also seems to be a reasonable assumption that explanatory talk is cognitively challenging and enriching for young child and such talk should enhance their development. So why was there no pattern of correlation between any measure of explanatory talk in bookreading and the outcome measures? In order to answer this question, we examined scatterplots of the individual outcome scores against the amount of explanatory talk found in the bookreadings. Interestingly, we found that, some of the mothers who engage in the most explanatory talk have children with the most extreme outcome scores, either high or low. For example, some of the lowest-scoring children on the PPVT have high-explaining mothers, and the four highest-scoring children on the PPVT also have high-explaining mothers. One explanation for this finding is that the mother provides explanations if she perceives her child is not understanding, and she gives more explanations if she perceives that her child is capable of going beyond the text and understanding more complex connections (vocabulary, links between the text and the readers' lives, inferencing). What is not being sorted out are the levels of sophistication of the explanations. Some mothers' explanations simply make the text comprehensible (the word "plump" is found in the text: "That means big and fat"), while other mothers' explanations use the book as a springboard for more challenging concepts ("Why do think he had a stomach ache?"). Both undoubtedly are helpful to the child but when we are looking at outcome measures there is no apparent association. The children bring some skill and individuality to the outcome tasks and are clearly not solely products of the mother's behavior.

## Conclusion

We believe that explanatory talk is of benefit to young children. It stretches their current knowledge and abilities, both linguistic and cognitive, allowing them to make connections that they would not have arrived at without the help of the explainer. It is through the interchange between the child and someone else that allows them to construct these new connections in their minds.

Explanations occur in a variety of social settings. Different settings have different purposes, different social functions, so explanations occur in varying amounts and intensities in different settings. Hence, some conversational situations will be better suited for some kinds of development than others. This is true both across families and within families. Book readings may be a good place in general for children to hear certain kinds of explanations, while mealtimes emphasize some others. But individual families can also have their own styles; one family may use book readings to focus on explanatory talk and do very little explanation at mealtimes, while another does the opposite.

The findings in this paper suggest that families create different styles suiting the needs of members for each situation. The lack of explanatory talk in one setting does not mean that it does not occur in another setting. As researchers, then, we must look at a variety of settings to get a true portrait of a child's experience with explanatory talk and probably other forms of discourse.

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